

**Before the
Federal Communications Commission
Washington, DC 20554**

In the Matter of)	
)	
Amendment of Part 15 of the Commission’s Rules)	ET Docket No. 14-165
for Unlicensed Operations in the Television Bands,)	RM-11840
Repurposed 600 MHz Band, 600 MHz Guard Bands))	
and Duplex Gap, and Channel 37)	

To: The Commission

**COMMENTS OF
THE WIRELESS INTERNET SERVICE PROVIDERS ASSOCIATION**

The Wireless Internet Service Providers Association (“WISPA”), pursuant to Sections 1.4 and 1.405 of the Commission’s Rules, hereby comments in support of the Petition for Rulemaking (“Petition”) filed on May 3, 2019 by Microsoft Corporation (“Microsoft”).¹ The Petition proposes changes to various Part 15 rules that would, if adopted, enable TV white space spectrum to be more efficiently and effectively deployed for rural broadband access. Consistent with Commission rules, the Petition therefore demonstrates “sufficient reasons” for the Commission to adopt a notice of proposed rulemaking.²

Introduction

WISPA represents the interests of wireless Internet service providers (“WISPs”) that provide high-speed fixed wireless broadband services to consumers, businesses, first responders, and community anchor institutions across the country. WISPA’s members include more than 800 WISPs, equipment manufacturers, distributors and other entities committed to providing affordable and competitive fixed broadband services. WISPs use unlicensed spectrum, lightly-licensed spectrum (or “shared access” spectrum) and licensed spectrum to deliver last-mile

¹ See Public Notice, Report No. 3127 (rel. May 9, 2019).

² 47 C.F.R. § 1.407.

broadband and voice services to more than four million consumers in rural and other unserved and underserved areas where other providers decline to invest. Over the years, WISPA has been an ardent advocate for the allocation of TV white space spectrum as another tool for its members to use to deploy fixed wireless service to consumers in rural areas, many of whom lack choice. For a variety of reasons, including the conservative rules the Commission initially granted and the intervening broadcast incentive auction and re-pack, widespread use of TV white space spectrum has not materialized. The rules proposed in the Petition offer real promise that deployment of fixed wireless networks on TV white space spectrum can develop into a prominent means of delivering broadband services to rural Americans.

Discussion

In its Petition, Microsoft proposes “pragmatic, long-overdue changes” to certain Part 15, Subpart H rules to “support more investment, innovation, and connectivity, while ensuring that incumbent licensees remain protected from harmful interference.”³ A number of these proposed changes would improve the ability of TV white space spectrum to serve rural consumers.

First, Microsoft’s recommendation that the Commission permit fixed devices to operate at higher maximum EIRP of 42 dBm in less congested areas will enable TV white space networks to be deployed over larger geographic areas, an improvement that may compensate for the relative shortage of vertical infrastructure in rural areas. WISPA agrees that any increase in maximum EIRP should not be coupled with any increase in the conducted power limit, but should include an increase in the separation distance, as Microsoft proposes.⁴ In requesting comment, the Commission also should inquire whether out-of-channel emission limits can be

³ Petition at 2. The text and substance of the proposed rule changes are in Appendix A to the Petition.

⁴ *See id.* at 4.

relaxed, especially at lower power levels, which could make customer premise and other equipment more affordable.

Second, and perhaps most critical to improving the ability of TV white spectrum to be more useful and viable as a fixed broadband platform, WISPA supports Microsoft's proposal to permit use of the 6 megahertz of spectrum first-adjacent to TV broadcast channels at power levels greater than 40 mW.⁵ Echoing WISPA's previous proposals,⁶ Microsoft observes that "because broadcasters are often dispersed throughout the band, rather than being efficiently packed, broadcasters can effectively restrict three times more spectrum than they actually use, from the perspective of a rural ISP, since each broadcaster is currently entitled to a 6 MHz buffer on either side of its own 6 MHz channel of operation."⁷ With access to spectrum adjacent to TV broadcast channels – with appropriate interference protection – WISPs can aggregate more spectrum and more contiguous spectrum to increase capacity. In some cases, the additional spectrum may be the difference between investing in TV white space equipment and deploying service or forgoing the opportunity altogether. WISPA appreciates that the National Association of Broadcasters has not embraced this element of Microsoft's Petition,⁸ and looks forward to renewing its dialogue in the rulemaking proceeding.

Third, the Commission should invite comment on Microsoft's proposal to allow TV white space devices to transmit from a height above average terrain ("HAAT") of up to 500 meters, subject to coordination for operations above 250 meters HAAT.⁹ Affording TV white

⁵ *Id.* at 6-10.

⁶ See Comments of WISPA, ET Docket No. 14-165 (filed Feb. 4, 2015) ("WISPA 2015 Comments") at 9-10; Reply Comments of WISPA, ET Docket No. 14-165 (filed Feb. 25, 2015) at 8.

⁷ Petition at 6.

⁸ See Letter from Patrick McFadden, Associate General Counsel, National Association of Broadcasters, to Marlene Dortch, Secretary, FCC, ET Docket Nos. 16-56 & 14-165 (filed Mar. 21, 2019) at 3.

⁹ Petition at 11-15.

space users additional deployment flexibility will increase the utility of the band, especially in rural areas where towers may be taller but the number of towers may be limited, or where towers are located on mountains or plateaus that exceed the current HAAT limit.

In addition to the above proposals, the Commission should take this opportunity to seek comment on whether to allow the TV white space database to account for directional antenna characteristics rather than treating all antennas as if they were omnidirectional.¹⁰ If the database has information describing the location, height, directional pattern, azimuth and gain of the TV white space antenna, it can determine the appropriate power level and separation distance needed to protect TV stations. With advancements in spectrum sharing, WISPA believes that such capabilities can be incorporated into the TV white space database with relative ease, with proper deployment confirmed through professional installation, thereby enhancing the ability of the spectrum to be used more efficiently to serve more locations without increasing the potential for harmful interference to TV broadcast stations.

WISPA also concurs with Microsoft's proposal to permit the use of the Longley-Rice (ITM) propagation model to compute interference as an option to the F-curves that the Commission has used since the 1960s.¹¹ While the ITM was previously dismissed on grounds that it is too "computationally intensive," that is belied by today's far less costly computing. The CBRS Spectrum Access System uses ITM to protect government incumbents from interference essentially in real time. Its use in TV white space spectrum would be considerably simpler and would allow interference calculations to take terrain into consideration.

¹⁰ See WISPA 2015 Comments at 11-12.

¹¹ Petition at 9-10.

Conclusion

In sum, Microsoft proposes rule changes that can offer significant improvements in fixed broadband deployment. There are “sufficient reasons” for the Commission to adopt a notice of proposed rulemaking inviting comment on the Petition, the rules proposed therein and the additional proposals discussed above.

Respectfully submitted,

**WIRELESS INTERNET SERVICE
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CERTIFICATE OF SERVICE

I, Sharon Krantzman, hereby certify that on this 10th day of June, 2019, a copy of the foregoing "Comments" was sent by first class, postage prepaid mail to the following:

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